A Brief History of the Reconstruction
Of the Proto-Altaic Phonological System

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1. INTRODUCTION

As noted by Merritt Ruhlen (1987:128):

> The study of the Altaic family has had a long and stormy history, and even today there is considerable disagreement among specialists over exactly which languages belong to the family.

The similarities among what has come to be known as the "Altaic" languages (specifically, Chuvash-Turkic, Mongolian, and Manchu-Tungus) were recognized nearly three hundred years ago by the Swedish military officer Johann von Strahlenberg, who published a work on the subject in 1730 (though Strahlenberg actually rejected the idea of a genetic relationship among these languages). The famous Danish scholar, and one of the founders of Indo-European comparative grammar, Rasmus Rask, also conducted research into these languages as well as Eskimo, several Uralic languages, and what have sometimes been called the "Paleosiberian" languages. In the middle of the last century, important work was done by the Finnish linguist Matthew Alexander Castrén. It was another Finnish scholar, Gustav John Ramstedt (cf. Poppe [1965:83—85] for a sketch of Ramstedt's life), who really put Altaic comparative linguistics on a firm footing. Ramstedt published many important studies, culminating in the publication (1952—1957) of his two-volume *magnum opus* (in English translation) *Introduction to Altaic Linguistics*. A few of the many scholars who have made significant contributions to Altaic linguistics are: Pentti Aalto, Johannes Benzing, Anna Dybo, Joseph Grunzel, Erich Haenisch, Shiro Hattori, Wladyslaw Kotwicz, Samuel E. Martin, Karl H. Menges, Roy Andrew Miller, Antoine Mostaert, Oleg Mudrak, Gyula (Julius) Németh, Jerry Norman, Martti Räsänen, Martine Robbeets, András Róna-Tas, Andrew Rudnev, Aurélien Sauvageot, Boris A. Serebrennikov, Denis Sinor, Sergej A. Starostin, John C. Street, Vilhelm Thomsen, Vera Ivanovna Tsintsius (Cincius), Ármin Vámbéry, Boris Yakovlevich Vladimirtsov, Alexander Vovin, and others too numerous to count, including several Russian, Korean, and Japanese scholars. One of the most prominent Altaic scholars of the twentieth century was the Russian-born Nicholas Poppe, who published numerous books and articles, including (in English translation) *Khalkha-Mongolian Grammar* (1951), *Introduction to Mongolian*

Comparative Studies (1955; reprinted 1987), (in English translation) *Comparative Grammar of the Altaic Languages* (1960; only Part I appeared), *Introduction to Altaic Linguistics* (1965), and *Grammar of Written Mongolian* (third printing 1974). A noteworthy work (1991) is the monograph by the late Russian linguist Sergej Starostin entitled (in English translation) *The Altaic Problem and the Origin of the Japanese Language*. Finally, we may note in passing that Illič-Svityč (1963, 1964) also made a couple of important contributions to Altaic linguistics.

Traditionally, Altaic has included the core groups (Chuvash-)Turkic, Mongolian, and (Manchu-)Tungus, to which some have tried to add Korean, Japanese-Ryukyuan (Japonic), and Ainu. Looking at just the core group, one is hard-pressed to find features common to all three. There are, to be sure, common features between (Chuvash-)Turkic and Mongolian on the one hand and between Mongolian and (Manchu-)Tungus on the other, but there appear to be relatively few features common to (Chuvash-)Turkic and (Manchu-)Tungus alone. All three are, in fact, similar in structure, but this has been considered by some to be strictly a typological characteristic. The common features found among the members of the core group have been explained as due to diffusion, and, for a good portion of the common lexical material, this seems to be a valid explanation (cf. Poppe 1965:157—163). There are, however, features common (pronouns, to cite a single example) to the members of the core group as a whole that cannot be explained as due to diffusion, and which do indeed point to some sort of genetic relationship. The problem is in trying to define the nature of that relationship. Two explanations are possible: (1) The shared features are due to common descent from Proto-Nostratic and do not imply a closer relationship between the three. In this scenario, (Chuvash-)Turkic, Mongolian, and (Manchu-)Tungus turn out to be three independent branches of Nostratic — this is Dolgopolsky's view. (2) The shared features are due to descent from a common Altaic parent language intermediate between Proto-Nostratic and each of the core group members. The trouble with the first explanation is that it merely shifts the question back to the Nostratic level without resolving a thing, whereas the second explanation keeps the focus exactly where it belongs. The second alternative thus remains a viable working hypothesis.

Strong opposition to the Altaic Theory has been expressed by several reputable scholars, perhaps the most vocal being Gerhard Doerfer and Gerard Clauson. At the Workshop on Linguistic Change and Reconstruction Methodology held at Stanford University from 28 July through 1 August 1987, the consensus of the Altaic panel was that "[i]n short, we found Proto-Altaic, at best, a premature hypothesis and a pragmatically poor foundation on which to build a sustained research program" (cf. Unger 1990:479).

The whole question of Altaic unity was again reexamined by Roy Andrew Miller (1991). Miller addresses and convincingly demolishes objections that have been raised by those opposed to setting up an Altaic language family, and he concludes his paper by listing a number of important tasks that must be undertaken by Altaicists to redirect "Altaic historical-linguistic studies back into the mainstream of comparative linguistics". Another who defended the Altaic Theory

against its critics was the Hungarian linguist Lajos Ligeti. In a 1969 article entitled "A Lexicostatistical Appraisal of the Altaic Theory", Ligeti reevaluated the evidence for and against the Altaic Theory, concentrating particularly on the views of Clauson. Ligeti concluded that the evidence does indeed point to a genetic relationship among (Chuvash-)Turkic, Mongolian, and (Manchu-)Tungus. Poppe (1965:125—156) also discusses the history of the Altaic Theory and confronts the issues raised by the critics. Sergej Starostin (1991) attempts to clarify many of the issues surrounding the problems associated with setting up an Altaic language family, including the relationship of Korean and Japanese to the other Altaic language groups (but see the rather critical reviews of Starostin's work by Comrie 1993, Krippes 1994, and Vovin 2001:107—114). The most recent work (2003) in support of the Altaic Theory is the massive *An Etymological Dictionary of the Altaic Languages* by Sergej Starostin, Anna Dybo, and Oleg Mudrak (see below). Greenberg (2005) also considers Altaic to be a valid genetic grouping.

The question of genetic relationship (or lack thereof) can only be definitively resolved when each branch has been fully reconstructed in all aspects (phonology, morphology, and vocabulary) and when the issue of diffusion has been reasonably clarified — indeed, good progress has been made and continues to be made in both of these areas. At that time, a meaningful comparison can be made between the putative daughter languages.

I would tentatively include the following groups within the Altaic language family: (Chuvash-)Turkic, Mongolian, (Manchu-)Tungus, and possibly Korean, while Japanese-Ryukyuan (Japonic) appears to be made up of an Altaic element that has been superimposed on an Austronesian substratum. The shared features between (Chuvash-)Turkic, Mongolian, and (Manchu-)Tungus may be looked upon as due to common descent from an Altaic parent language. Language change over time has gradually led to increasing differentiation between each of the three core group members, while diffusion, especially lexical diffusion, has tended to complicate the picture and has made it difficult to differentiate between that which is borrowed and that which is inherited.

Probably the most notable characteristic of the Altaic languages is the assimilatory phenomenon known as "vowel harmony". In the Turkic languages, for example, the first vowel segment occurring in a word influences the following vowel segments so that all vowels in the word have certain features in common. In Kirghiz, all of the vowels occurring in a given word must have the same feature for front ~ back and for rounded ~ unrounded, while height distinctions do not figure into the system of vowel harmony at all, so that high and non-high vowels can be freely combined in a word. It was the development of the system of vowel harmony that was responsible for the appearance of front rounded and back unrounded vowels in Altaic. These vowels are, thus, a later development and are not to be reconstructed for Proto-Nostratic.

2. OLDER VIEWS ON THE RECONSTRUCTION OF THE PROTO-ALTAIC PHONOLOGICAL SYSTEM

In my 1994 co-authored book (Bomhard—Kerns 1994), I mostly followed the reconstruction of the Proto-Altaic phonological system proposed by Nicholas Poppe (1960), while I based the Proto-Altaic reconstructed forms upon those proposed by John Street (1974). According to Poppe, Proto-Altaic is assumed to have had a voicing contrast in stops and affricates, but, as he notes (1960:9—10), there is a possibility that the contrast could have been between voiceless aspirated and voiceless unaspirated stops and affricates instead. An entirely different approach is taken by Illič-Svityč (1971—1984.I:147—156), who reconstructs the three-way contrast of (1) voiceless aspirated, (2) plain voiceless, and (3) plain voiced for Proto-Altaic, and this is also the system followed by Sergej Starostin (1991). According to Poppe's reconstruction, neither the liquids nor the velar nasal were used word initially, while the voiceless stops and palato-alveolar affricate were strongly aspirated. Poppe also assumed that Proto-Altaic had a rich system of long and short vowels.

According to Poppe (1960), the Proto-Altaic phonological system is to be reconstructed as follows:

p		t		č		k		
b		d		ǯ		g		
		s						
m		n		nʸ		-ŋ-		
		-r- (= -r¹-)		-rʸ- (= -r²-)				
		-l- (= -l¹-)		-lʸ- (= -l²-)				
				y				

a	o	u	i	e	ė	ö	u̇	ï
ā	ō	ū	ī	ē	ė̄	ȫ	ū̇	ī̈

According to Sergej Starostin (1991:5—24), on the other hand, the Proto-Altaic phonological system is to be reconstructed as follows:

Stops and affricates:	pʰ	tʰ	čʰ	kʰ
	p	t	č	k
	b	d	ǯ	g

Sibilants:		s	š (?)
		z (?)	

Nasals and liquids:	m	n	nʸ	ŋ
		-l- (= -l¹-)	-lʸ- (= -l²-)	
		-r- (= -r¹-)	-rʸ- (= -r²-)	

Glides:		-w-				-y-			

Vowels: i   e   ä   ü   ö   ɨ (ə) (?)   u   o   a

Diphthongs: ia   io   iu (ue?) ua

Note: Though not shown in the charts on pages 21—24 of his 1991 book, Starostin also reconstructs long vowels for Proto-Altaic.

The Proto-Altaic phonological system proposed by Starostin (and, earlier, by Illič-Svityč) is an improvement over the traditional reconstruction. Starostin's reconstruction is not, however, the final word on the subject — the vowels, in particular, need considerably more work. This shortcoming has been partially addressed by Starostin, Dybo, and Mudrak in their *An Etymological Dictionary of the Altaic Languages*.

Griffen (1994:42—43) reconstructs a Proto-Altaic obstruent system close to that of the Russians. He posits three degrees along the fortis-lenis scale: aspirata, tenuis, and media:

Aspirata:	p^h	t^h	$č^h$	k^h
Tenuis:	p	t	č	k
Media:	b	d	ǯ	g

3. NEW THOUGHTS ON THE RECONSTRUCTION OF THE PROTO-ALTAIC PHONOLOGICAL SYSTEM

An important milestone in Altaic studies was reached in 2003 with the publication by Sergej A. Starostin, Anna Dybo, and Oleg A. Mudrak of *An Etymological Dictionary of Altaic Languages*. Though this dictionary must be used with caution (note the critical reviews by Georg 2004, Vovin 2005, and Norman 2009 [Starostin wrote a rebuttal to Georg's review in 2005 in *Diachronica*]), it contains much that is of value and is, in many respects, an improvement over previous efforts.

Starostin—Dybo—Mudrak (2003:24) reconstruct the Proto-Altaic phonological system as follows (where their transcriptions differ from those used in this book, their transcriptions are shown in parentheses immediately after those used here):

Stops and affricates:	p^h- (= pʿ-)	t^h (= tʿ)	$č^h$ (= čʿ)	k^h (= kʿ)
	p	t	č	k
	b	d	ǯ	g

Sibilants:		s	š	
		z-		

Nasals and liquids:	m	n	nʸ (= ń)	ŋ
		-l-	lʸ (= ĺ)	
		-r-	-rʸ- (= -ŕ-)	

| Glides: | | | -y- (= -j-) | |

| Vowels: | i | e | u | o | a |
| | ī | ē | ū | ō | ā |

| Diphthongs: | i̯a | i̯o | i̯u |

Starostin—Dybo—Mudrak note that *z and *y are in complementary distribution: *z occurs only in initial position, while *y is never found at the beginning of a word.

According to Starostin—Dybo—Mudrak (2003:90), the traditional system of vowel correspondences proposed by Ramstedt and Poppe is outdated and in need of revision. Interestingly, they assume that the Proto-Altaic vowel system was completely devoid of vowel harmony, which they further assume evolved in all the subgroups at a later date as the result of complex interactions between the vowels of the first and the second syllables in polysyllabic roots and derivatives.

Starostin—Dybo—Mudrak (2003:90) assume that Proto-Altaic had five vowels (*i, *e, *u, *o, *a) and three diphthongs (*i̯u, *i̯o, *i̯a) — the diphthongs were restricted to the first syllable of the word. The interaction of eight vocalic units (*i, *e, *u, *o, *a, *i̯u, *i̯o, *i̯a) of the first syllable and five vocalic phonemes (*i, *e, *u, *o, *a) of the second syllable led to an extremely diverse system of correspondences, of which the traditional correspondences proposed by Ramstedt and Poppe are only a small subset.

The diphthongs with *-i̯- are basically reconstructed by Starostin—Dybo—Mudrak where Turkic and Manchu-Tungus have specific reflexes (*-ia- in Turkic, *-ia- and *-ü- [-iu-] in Manchu-Tungus); in several cases, however, diphthongs have been lost in those subgroups as well and can be reconstructed only through circumstantial evidence.

The phonetic nature of the Proto-Altaic diphthongs is still not completely certain. Starostin—Dybo—Mudrak prefer to treat them as diphthongs because they are preserved as such in a number of cases in Proto-Turkic, Proto-Manchu-Tungus, and Korean, but an interpretation of the diphthongs as front vowels could also be possible. In that case, *i̯a is to be reinterpreted as *ä, *i̯o as *ö, and *i̯u as *ü. They note that further research is needed before a definitive solution to this problem can be reached.

The Manchu-Tungus system of vowels appears to be the most conservative and was used by Starostin—Dybo—Mudrak as the basis of their reconstruction. Turkic, Mongolian, and Korean usually modify the first vowel under the influence of the second one. Thus, fronted first vowels usually signal that the second vowel was a front one. However, the second vowel could also be fronted or shifted to back under

the influence of the first vowel, leading to numerous variations in the reflexes. Japanese seems to have exclusively assimilated the first vowel to the second one (a process very similar to what later happened in Mongolian), so that the quality of Japanese vowels in the first syllable is normally a good indicator of the original quality of the second vowel, which itself may have been assimilated or have disappeared altogether.

Vowels of the non-initial syllable are generally very unstable in all modern Altaic languages. They tend to become assimilated to initial vowels, are frequently contracted in various combinations with following suffixes, and are often lost completely. They are best preserved in the Manchu-Tungus languages and are completely lost in the majority of Turkic and Korean roots. The situation, therefore, is very close, for example, to what is found in Germanic, within Indo-European, or in the Nakh languages in the Eastern Caucasus, where the quality of non-initial vowels can only be recovered on the basis of umlaut processes in the first syllable. Thus, Starostin—Dybo—Mudrak have chosen to reconstruct non-initial vowels on indirect evidence, namely, by the way the non-initial vowels have influenced preceding vowels. They note that rules for the development of non-initial vowels in the individual Altaic subbranches have yet to be worked out and will depend substantially on the future analysis of verbal and nominal morphophonemics and accent systems.

4. ROOT STRUCTURE PATTERNING IN PROTO-ALTAIC

Like Uralic-Yukaghir and Elamo-Dravidian, the Altaic languages are agglutinating in structure. Pronominal stems and particles were monosyllabic (*(C)V), while nominal and verbal stems were typically disyllabic (*(C)VCV or *(C)VCCV). Polysyllabic stems could be derived from the disyllabic stems by the addition of suffixes. The addition of suffixes caused no changes in the vowel of the stem, but the vowels of the suffixes were subject to vowel harmony, which means that their vowels were adjusted to the vowel of the stem. The undifferentiated stems were real forms in themselves and could be used without additional suffixes. The suffixes, both derivational and inflectional, were added mechanically to the stem.

According to Starostin—Dybo—Mudrak (2003:22—24), the most common root structure pattern in Proto-Altaic was *CVCV, occasionally with a medial consonant cluster — *CVCCV. The final vowel, however, was very unstable: it is best preserved in Manchu-Tungus languages (though it is not always easily reconstructable due to morphological processes), and it is frequently dropped in Korean, Mongolian, and Turkic (in the latter family, in fact, in the majority of cases). Japanese usually preserves the final vowel, although its quality is normally lost; however, in cases where the final (medial) root consonant is lost, Japanese reflects original disyllables as monosyllables.

Japanese also has quite a number of monosyllabic verbal roots of the type *CVC-. These roots were originally disyllabic as well. However, reconstructing

them as *CVCa- is certainly incorrect. The Old Japanese verbal conjugation shows explicitly that the verbal stems can be subdivided into three main types: *CVCa- (those having the gerund in -e < *-a-i), *CVCə- (those having the gerund in -i < *-ə-i), and *CVC- (those having the gerund in -ji < *-i). Here, there is a possibility that the latter type reflects original verbal roots *CVCi (occasionally perhaps also *CVCu, though there are reasons to suppose that some of the latter actually merged with the type *CVCə-). The gerund form in *-i may actually reflect the original final root vowel that had earlier disappeared before other verbal suffixes of the type *-V(CV)-.

A small number of trisyllabic roots such as *alakʰu 'to walk', *kabari 'oar', *kʰobani 'armpit', etc. can also be reconstructed for Proto-Altaic. It cannot be excluded that, in many or most of these cases, the final syllable was originally a suffix, but the deriving stem was not used separately, and the derivation had already become obscure in the proto-language.

The monosyllabic structure *(C)V was typical for pronominal and auxiliary morphemes, but a small number of verbal (and, quite exceptionally, nominal) monosyllabic roots can also be reconstructed.

A special case involves a number of verbal roots that appear as monosyllables of the type *CV in some languages but have the structure *CVl(V) or, less frequently, *CVr(V) in others. Starostin—Dybo—Mudrak reconstruct disyllables here, but note that the exceptional loss of *r and *l remains unexplained. A possible solution would be to reconstruct those roots as *CVC, with occasional loss of the root-final resonant. However, the number of examples is not large, and the roots in question are frequently used as auxiliary verbs, which by itself could explain the exceptional phonetic development. It is also possible that *-r- and *-l- were originally suffixed and that the roots belonged instead to the rare type *CV. Starostin—Dybo—Mudrak note that the problem requires further investigation.

There were four fundamental stem types in Proto-Altaic:

1. Verbal stems
2. Nominal and adjectival stems
3. Pronouns
4. Particles

There was a strict distinction between nominal and verbal stems.

5. THE POSITION OF JAPANESE-RYUKYUAN (JAPONIC) AND KOREAN

Some recent work has attempted to demonstrate that Japanese-Ryukyuan (Japonic) and Korean are genetically related to each other (cf. Martin 1966, 1975, and 1991; Vovin 2001; Whitman 1985 and 2012), though Vovin has since (2010) taken a more negative view. Attempts to relate Japonic (usually Japanese alone) and Korean to other language families have generally not received wide acceptance,

although the most viable comparison has been and continues to be with the Altaic languages (cf. Robbeets 2005). However, much work needs to be done here before this hypothesis can be accepted as proven beyond a reasonable doubt. Accordingly, Japonic and Korean data are not included in this book except when the work of others is being referenced (as in the preceding discussion). See also Cavoto 1998: 19—20.

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The table of correspondences on the following page is based exclusively upon the work of Starostin—Dybo—Mudrak (2003) (see also Griffen 1994). Older views must now be considered outdated. Only the consonants are given. The vowel correspondences are extremely complicated — for details on the vowels, cf. Starostin—Dybo—Mudrak (2003:90—134).

Starostin—Dybo—Mudrak consider Japanese-Ryukyuan (Japonic) and Korean to be members of the Altaic language family. Consequently, these languages are included in the table on the following page (though note the above comments on the position of these languages).

For information on the Turkic languages, cf. Johanson—Csató (eds.) 1998 and von Gabain—Pritsak—Poppe—Benzing—Menges—Temir—Togan—Taeschner—Spies—Caferoğlu—Battal-Taymas 1982; for the Mongolic languages, cf. Janhunen (ed.) 2003, Poppe 1955, Poppe—Dosch—Doerfer—Aalto—Schröder—Pritsak—Heissig (eds.) 1964, and Svantesson—Tsendina—Karlsson—Franzén 2005; and for the Manchu-Tungus languages, cf. Fuchs—Lopatin—Menges—Sinor 1968. A new book on the Manchu-Tungus languages, under the editorship of Alexander Vovin, is currently being prepared (Vovin [ed.] to appear).

6. CORRESPONDENCES

Proto-Altaic	Proto-Tungus	Proto-Mongolian	Proto-Turkic	Proto-Korean	Proto-Japanese
pʰ-	p-	h-/y-	Ø-/y-	p-	p-
-pʰ-	-p-	-h-/-b-, -b	-p-	-p-	-p-
p-	p-	b-/h-	b-	p-	p-
-p-	-b-	-b-	-b-	-p-	-p-
b-	b-	b-	b-	p-	p-/b[a, ə, Vy]
-b-	-b-	-h-/-[R]b-/b[Vg], -b	-b-	-b-, -p	-p-/[iV, y]w
m	m	m	b-, -m-	m	m
tʰ-	t-	t-/č(i)-	t- [dV+lʸ rʸ r]	t-	t-
-tʰ-	-t-	-t-/-č(i)-, -d	-t-	-t-	-t-
t-	d-/ǯ(i̯)-	d-/č(i)-	d-	t-	t-/d[i ə]
-t-	-t-	-d-/-č(i)-	-t-	-t-/-r-	-t-
d-	d-	d-/ǯ(i)-	y-	t-	d-/t[V + Cʰ]
-d-	-d-	-d-/-ǯ(i)-	-d-	-t-/-r-	-t-/[iV y]y
n	n	n	y-, n	n	n
kʰ-	x-	k-	k-	k-	k-
-kʰ-	-k-/-x-	-k-/-g[Vh]-, -g	-k-	-k-/-h-	-k-
k-	k-	k-	g-	k-	k-
-k-	-k-	-g-, -g	-k-/-g[Vr]-	-Ø-/-h-, -k	-k-
g-	g-	g-	g-	k-	k-
-g-	-g-	-h-/-g[Vh]-, -g	-g-	-Ø-/-h-, -k	-k-/[iV]Ø
ŋ-	ŋ-	Ø-/y-/g[u]-/n[a o e]	Ø-/y-	n-	Ø-/n-(/m[i̯]-)
-ŋ-	-ŋ-	-ŋ-/-n-/-m-/-h-	-ŋ-	-ŋ-/-Ø-	-n-/-m-
čʰ-	č-	č-	č-	č-	t-
-čʰ-	-č-	-č-	-č-	-č-	-t-
č-	ǯ-	d-/č(i)-	d-	č-	t-
-č-	-s-	-č-	-č-	-č-	-s-
ǯ-	ǯ-	ǯ-	y-	č-	d-
-ǯ-	-ǯ-	-ǯ-	-y-	-č-	-y-
nʸ	nʸ	ǯ-, -y-/-n-	y-, -nʸ-	n-, -nʸ-	m-, -n-/-m-
-y-	-y-	-y-/-h-	-y-	-y-/-Ø-	-y-/-Ø-
-r-	-r-	-r-	-r-	-r-	-r-/-t-
-rʸ-	-r-	-r-	-rʸ-	-r-	-r-/-t[i u]-
l	l	l-/n-, -l-	y-, -l-	n-, -r-	n-, -r-
lʸ	l	d-/ǯ(i)-, -l-	y-, -lʸ-	n-, -r-	n, -s-
s	s	s	s	s-/h-, -s-	s
z-	s-	s-	y-	s-	s-
š	š	s-/č[A]-, -s-	s-/č[A]-, -s-	s	s

For comparison, Robbeets (2016:206—207) gives the following correspondences:

I. Consonants:

Proto-Transeurasian	Proto-Tungus	Proto-Mongolian	Proto-Turkic	Proto-Korean	Proto-Japanese
p-	p-	p-	b-	p-	p-
-p-	-p-	-γ-	-p-	-p-	-p-
b-	b-	b-	b-	p-	p-/w-
-b-	-b-	-b-/-γ-	-b-	-p-	-p-/-w-
-mT-	-PC-	-PC-	-P(C)-	-pC-	-np-
-Rp-	-RP-	-RP-	-RP-	-Rp-	-np-
t-	t-	t-	t-	t-	t-
-t-	-t-	-t-	-t-	-t-	-t-
d-	d- (ji-)	d- (ji-)	y-	t- (ci-)	t-/y-
-d-	-d- (-ji-)	-d- (-ji-)	-d-	-l-	-t-/-y-
-nK-	-TC-	-TC-	-TC-	-c-	-nt-
-Rt-	-RT-	-RT-	-RT-	-Rc-	-nt-
k-	k-	k-	k-	k-	k-
-k-	-k-	-k-	-k-	-k- (-h-)	-k-
g-	g-	g-	k-	k-	k-
-g-	-g-	-g-	-g-	-k- (-h-)	-k-
-ŋT-	-KC-	-KC-	-KC-	-kC-	-nk-
-Rk-	-RK-	-RK-	-RK-	-Rk-	-nk-
č-	č-	č-	č-	c-	t-
-č-	-č-	-č-	-č-	-c-	-t-
-lč	-l(č)	-l(č)	-l(č) ~ -š	-l(i)	-si
x-	x-	k-	k-	k-, h-	k-
-x-	-x-	-g- ~ -k-	-g- ~ -k-	-k-	-k-
s-	s-	s-	s-	s-	s-
-s-	-s-	-s-	-s-	-s-	-s-
m-	m-	m-	b-	m-	m-
-m-	-m-	-m-	-m-	-m-	-m-
n-	n-	n-	y-	n-	n-
-n-	-n-	-n-	-n-	-n-	-n-
-r-	-r-	-r-	-r-	-l-	-r-
-r₂-	-r-	-r-	-r₂-	-l-	-r-
-l-	-l-	-l-	-l-	-l-	-r-

Note: According to Robbeets, "Transeurasian" comprises the following branches: (Manchu-)Tungus, Mongolian, (Chuvash-)Turkic, Korean, and Japonic. She restricts "Altaic" to (Manchu-)Tungus, Mongolian, and (Chuvash-)Turkic.

II. Vowels:

Proto-Transeurasian	Proto-Tungus	Proto-Mongolian	Proto-Turkic	Middle Korean < Proto-Korean	Old Japanese < Proto-Japanese
-a-	-a-	-a-	-a-	-a- < -a-	-a- < -a-
CaCa	CaCa	CaCa	CaC	CʌCʌ	CaCa
-ə-	-e-	-e-	-e-	-e- < -e-	-a- < -a-
-ə-	-e-	-e-	-e-	-e- < -e-	-o- < -ə-
-ɔ-	-o-	-o-	-o-	-wo- < -o-	-o- < ? o-
-ɔ-	-o-	-o-	-o-	-wo- < -o-	-u- < -o-
-o-	-ö-	-ö-	-ö-	-u- < -ɨ-	-o- < -ɨ-
-u-	-u- (gü)	-ü-	-ü-	-wu- < -u-	-u- < -u-
-ʊ-	-u-	-u-	-u-/-ï-	-o- < -ʌ-	-u- < -u-
PʊRʊ-	PuRu-	PuRu-	PuR-	PʌRʌ- < PɨRɨ-	PaRu- < PauRu-
-i-	-i-	-i-	-i-/-ï-	-i- < -i-	-i- < -i-
a-	a-	a-	a-	a- < a-	a- < a-
ə-	e-	e-	e-	e- < e-	o- < ə-
ɔ-	o-	o-	o-	wo- < o-	o- < ? o-
o-	ö-	ö-	ö-	Ø < ? ɨ-	o- < ɨ-
u-	u-	ü-	ü-	wu- < u-	u- < u-
ʊ-	u-	u-	u-	Ø < ? ʌ-	u- < u-
i-	i-	i-	i-	i- < i-	i- < i-

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